Submit by Monday 24 October 2011

DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 18: STAGE 2

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue.

1. Name and address of organisation (NB: Notification of results will be by post to the Project Leader)

Name:	**Address:**
Institute of Zoology	Zoological Society of London, Regent's Park, London NW1 4RY

2. Project title (not exceeding 10 words)

A sustainable future for Chinese giant salamanders.

3. Project dates, duration and total Darwin Initiative Grant requested, matched funding

Proposed start date: 1 July 2012		**Duration of project:** 36 months			**End date:** 30 June 2015
Darwin funding requested	**2011/12 £**	**2012/13 £**	**2013/2014 £**	**2014/15 £**	**2015/16 £**	**Total £300,374**

Proposed (confirmed and unconfirmed) matched funding as percentage of total Project cost:
Secured: Zoological Society of London (ZSL), Royal Society; Kunming Institute of Zoology, Chinese Academy of Science (KIZ; Shaanxi Normal University (SNU; Kadoorie Farm & Botanic Garden (KFBG; Fisheries Management Bureau of People's Republic of China (FMB); Tottori University (TU); IUCN Save Our Species; Wildfowl & Wetlands Trust (WWT); Guiyang University (GU; South China Institute of Endangered Animals (SCIEA; EAZA Amphibian Conservation Fund; Ocean Park Conservation Foundation Hong Kong; US Fish and Wildlife Service. *Additional funds will be raised throughout this project; the following are currently pending*: WWT; and (pending results of Darwin Initiative grant application) KIZ; SNU; Shaanxi Wild Animal Rescue and Research Centre (SWARRC); Ministry of Environmental Protection (MoEP); Ministry of Agriculture (MoA),. *In total*, £371,501 of matched funding is proposed, of which £316,108 has been secured and £69,750 is currently pending.

4. Define the purpose of the project (extracted from logframe)

Building the evidence-base and capacity to underpin, promote & conduct a strategic conservation plan for the Chinese giant salamander (*Andrias davidianus*).

5. Principals in project. Please provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more UK personnel or more than one project partner.

Details	**Project Leader**	**Other UK personnel (working more than 50% of their time on project)**	**Main project partner and co-ordinator in host country/ies**
Surname	Cunningham		Wu
Forename (s)	Andrew		Minyao
Post held	Professor, Deputy Head		Professor
Institution (if different to above)	Institute of Zoology & Head of Wildlife Epidemiology		Shaanxi Normal University / Shaanxi Wild Animal Rescue and Research Centre
Department	Institute of Zoology		Life Sciences College
Telephone			
Email			

Details	Project Partner 2	Project Partner 3	Project Partner 4
Surname	Zhang	Wei	Wei
Forename (s)	Ya-ping	Gang	Guan
Post held	President	Professor	Director
Institution (if different to above)	Kunming Institute of Zoology, Chinese Academy of Science	Guiyang University	Fishery Management Bureau of Shaanxi the People's Republic of China
Department	Kunming Institute of Zoology	Animal Research Institute, Ecological Research Centre	Fishery Management Bureau of Shaanxi Province
Telephone			
Email			

Details	Project Partner 5	Project Partner 6	Project Partner 7
Surname	Okada	Chan	
Forename (s)	Sumio	Bosco	
Post held	Post-doctoral Associate	Head	
Institution (if different to above)	Tottori University	Kadoorie Farm & Botanic Garden	
Department	Department of Social Systems Engineering	Kadoorie Conservation China	
Telephone			
Email			

6. Has your organisation received funding under the Darwin Initiative before? If so, please provide details of the most recent (up to 6 examples).

Reference No	Project Leader	Title
EIDPO036	Dr. Kate Jones	Monitoring biodiversity indicators through volunteer networks across Eurasia
15033	Dr. Kate Jones	Monitoring bat biodiversity: indicators of sustainable development in Eastern Europe
14055	Dr. Sarah Durrant	Developing a national conservation action plan for the mammals of Tanzania
13032	Dr. Andrew Cunningham	Addressing a threat to Caribbean amphibians: capacity building in Dominica
12017	Dr. Simon Goodman	Building capacity and determining disease threats to endemic Galapagos fauna
12004	Dr. Rajan Amin	Building capacity for conservation of a critically endangered flagship species (Kenya)

7. IF YOU ANSWERED 'NO' TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department) N/A

8. Please list all the partners involved (including the Lead Institution), and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

Applicant institution and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Institute of Zoology, Zoological Society of London (ZSL) www.zsl.org/ioz ZSL EDGE Programme: www.edgeofexistence.org	Roles & Responsibilities: An international hub of excellence in the conservation of amphibians, ZSL hosts world-class researchers and conservationists contributing considerable expertise to this project. Professor Andrew Cunningham (previous leader of two Darwin Initiative projects: 13032 and 10013/EIDP05) will lead this project and take responsibility for its overall direction, all activities and outputs. Training will occur both in China and at ZSL, as appropriate. ZSL will also be responsible for international and UK media releases through the ZSL Communications Department and ZSL will manage the project publicity in collaboration with partner organisations and relevant government departments in China. Creating tailored training programmes with Chinese partner organisations for in-country conservation scientists (hereafter EDGE Fellows; please see www.edgeofexistence.org) and project staff, a team at ZSL (including Professor Andrew Cunningham; Jeff Dawson, EDGE Conservation Biologist; Helen Meredith, PhD student; Sarah Thomas, Head of Discovery and Learning; Dr. Sam Turvey, Royal Society University Research Fellow; and Dr. Ian Stephen, Curator of Herpetology) will oversee project capacity building requirements in the areas of: project management; fundraising; disease diagnostics; Communication, Education and Public Awareness (CEPA); questionnaire-based survey protocols; and *ex situ* conservation breeding programme development. ZSL will also recruit and train a full-time Chinese Project Coordinator. Project Development: ZSL initiated the development of this project through a Darwin Scoping Award expedition (EIDPR103) which has so far leveraged £91,842 for the planning and implementation of a collaborative conservation programme for the Chinese giant salamander (CGS). ZSL co-led the first *International Conservation Workshop for the Chinese Giant Salamander* (ICWCGS) with the Shaanxi Normal University (SNU) in 2010 to develop Conservation Action Plan recommendations with over 50 key Chinese stakeholders and 15 international experts representing Chinese government, research, conservation, communication, education and farming interests, formulating a project framework that is demand-driven and meets the needs of the host country through strong project partnerships. Professor Andrew Cunningham has participated in further visits and communications with project partners since the workshop and has commenced the establishment of a disease diagnostics laboratory at SNU in partnership with Professor Minyao Wu, and also initiated the training of a Masters student, Zhou Feng, who will focus on CGS disease diagnostics, screening and mitigation strategies as an EDGE Fellow over the three years of the planned project. Zhou Feng received 6 weeks of initial training at ZSL and is currently conducting cascade training at SNU, which will be continued as part of this proposed project.

Lead Partner and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Shaanxi Normal University (SNU), in association with the Shaanxi Wild Animal Rescue and Research Centre (SWARRC)	Roles & Responsibilities: SNU will take primary responsibility for in-country coordination of amphibian disease diagnostics and screening, and will develop long-term disease mitigation strategies in the context of wild and captive management of CGS. Working with the farming community to devise locally-needed management interventions to reduce the impact of disease on farmed CGS and engender a more

http://english.snnu.edu.cn/ www.snnu.edu.cn/	sustainable and self-sufficient farming industry, we aim to reduce the impact of farming on wild CGS and other amphibian species (e.g. from exploitation and disease spill-over) whilst encouraging *in situ* conservation efforts for wild CGS. Professor Minyao Wu will coordinate the continued development of a disease diagnostics laboratory at SNU where he will host and supervise EDGE Fellow Zhou Feng. In his role as Scientific Advisor to SWARRC, Professor Wu will also coordinate the development of a flagship CGS *ex situ* conservation breeding facility. SNU will act as a venue for project meetings and workshops, including a CEPA training and planning workshop in the first year of the project where all three EDGE Fellows will be trained as CEPA campaign managers. SNU will lead the development of a CEPA campaign on CGS and freshwater ecosystem conservation in Shaanxi Province. Project Development: In addition to co-leading and hosting the first ICWCGS with ZSL, SNU has taken a lead role in developing working relationships with the Chinese giant salamander farming community and relevant government agencies. Professor Wu is a Scientific Advisor to the Ministry of Agriculture's Fisheries Management Bureau of Shaanxi Province and is working closely with the Director, Ms. Guan Wei, to implement a conservation programme that may be fully endorsed by the Chinese government. During the project development phase, Professor Wu is acting as primary project liaison to the Ministry of Environmental Protection, which is responsible for meeting China's commitment to the CBD, and the State Forestry Authority, which implements CITES through the Endangered Species Import and Export Management Office of the People's Republic of China.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Kunming Institute of Zoology, Chinese Academy of Sciences (KIZ) http://english.kiz.cas.cn/ www.kiz.ac.cn/	Roles & Responsibilities: KIZ, part of the Chinese Academy of Sciences, is one of China's first class zoological research institutes and hosts a growing CGS genetics database. Professor Ya-ping Zhang (Academician and President of KIZ) and his long-term collaborator Professor Robert Murphy (KIZ Adjunct Professor) will supervise an EDGE Fellow, Yan Fang, to focus on CGS conservation genetics, enhancing the understanding of CGS range-wide population genetics and leading to the development of a protocol for genetic screening of any captive CGS released to supplement wild populations. KIZ will also host the project coordinator whenever required, provide logistical and political support, and also supply a venue for project meetings and workshops. Project Development: Professor Robert Murphy has been involved in the development of this collaborative long-term CGS conservation programme since 2008 and attended the ICWCGS with his then Masters student, Yan Fang, to help formulate Conservation Action Plan recommendations relating to CGS genetics. Working with Professor Ya-ping Zhang to develop the conservation genetics component of this project, Professor Murphy has acted as a vital advisor in the implementation of multi-stakeholder projects in China that are supported by the highest levels of Chinese government.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Guiyang University (GU) Guizhou Province www.gyu.cn/	Roles & Responsibilities: Professor Gang Wei is chief project partner in the development of *in situ* monitoring and conservation programmes for wild CGS. Guizhou province contains several wild populations of CGS and Professor Gang Wei is currently leading the Guizhou Biodiversity Conservation Strategy and Action Plan funded by the Guizhou Environment Conservation Bureau, which seeks to conserve CGS in the context of freshwater ecosystems and associated species. Working with the South China Institute of Endangered Animals (SCIEA) and Kadoorie Farm & Botanic Garden (KFBG), Professor Gang Wei will co-supervise an EDGE Fellow to be trained in wild CGS monitoring techniques; engaging with CGS protected area management as a key part of this work. GU's Animal Research Institute in the Ecological Research Centre will host a long-term monitoring programme and develop locally-based management strategies for wild CGS in Guizhou province, promoting cascade training of project participants, and will lead the development of a CEPA campaign on CGS and freshwater ecosystem conservation in Guizhou province. Project Development: Professor Gang Wei attended the ICWCGS to help formulate *in situ* conservation strategies for CGS, since when he has incorporated CGS conservation requirements into a wider framework for biodiversity conservation through the Guizhou Biodiversity Conservation Strategy and Action Plan.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Fisheries Management Bureau of the People's Republic of China (FMB) Part of the Ministry of Agriculture: http://english.agri.gov.cn/	Roles & Responsibilities: As the government agency responsible for all matters relating to the management of wild and captive CGS, the FMB is a key project partner, providing permits for CGS research and conservation work and adopting protocols arising from this project. A sustainable future for CGS hinges on an effective and mutually-supportive working relationship with the FMB. Project Development: Ms. Guan Wei, Director of the FMB for Shaanxi Province, attended and endorsed the ICWCGS. Professor Wu has acted as chief liaison and Scientific Advisor to the FMB during the project development phase, and Ms. Guan Wei and other FMB staff have met with Professor Andrew Cunningham on several occasions to discuss the development of all aspects of this project.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Tottori University (TU) http://www.tottori-u.ac.jp/dd.aspx?menuid=2561	Roles & Responsibilities: Dr. Sumio Okada from TU, Japan, is an expert on the *in situ* monitoring and conservation of wild giant salamanders. Dr. Okada is also Vice President of the Japanese Giant Salamander Society and has organised many CEPA initiatives to promote Japanese giant salamander (*Andrias japonicas*, Cryptobranchidae) and freshwater ecosystem conservation. Dr. Okada's role will be to transfer Japanese knowledge and techniques in the *in situ* monitoring and management of wild giant salamanders by training the EDGE Fellow co-supervised by Professor Gang Wei at GU and SCIEA. Dr. Okada will also participate in the CEPA training and planning workshop at SNU. Although Dr Okada will principally conduct *in situ* training in China, facilities at TU and Japanese giant salamander survey sites are also available for training activities for the

	CGS monitoring EDGE Fellow and other project partners. Project Development: Dr. Okada has been involved in the development of this project since 2009, when he hosted Dr. Ian Stephen, ZSL's Curator of Herpetology, to visit project sites in the long-term monitoring, *in situ* conservation, awareness raising and conservation breeding of the Japanese giant salamander to discuss which project aspects could be transferred to CGS conservation. Subsequently, Dr. Okada attended the ICWCGS and helped develop Conservation Action Plan recommendations for CEPA and *in situ* monitoring and conservation of CGS.

Partner Name and website where available:	**Details (including roles and responsibilities and capacity to engage with the project):**
Kadoorie Farm and Botanic Garden (KFBG) http://www.kfbg.org.hk/	Roles & Responsibilities: KFBG is involved in the planning and implementation of *in situ* conservation programmes for biodiversity in Southern China. KFBG started the South China Biodiversity Conservation Programme in 1998 with the aim of minimising the loss of biodiversity and encouraging sustainability in China. The programme has developed into Kadoorie Conservation China (KCC), enabling KFBG to act as an extremely effective partner and advisor in the development of conservation programmes in China. Dr. Bosco Chan, Head of KCC at KFBG, will continue to act as a project advisor helping to develop the *in situ* conservation aspects of this project. KFBG will also assist in the recruitment of a Chinese Project Coordinator. Project Development: KFBG have assisted in the development of this project since its inception, providing key contacts and local knowledge essential to project planning and implementation in China, not least during the 2009 Darwin Scoping Award expedition (EIDPR103). Dr. Bosco Chan also accepted the role of workshop facilitator at the ICWCGS, ensuring the effective flow of communication between Chinese and international workshop participants and enabling the development of mutually agreeable Conservation Action Plan recommendations.

9a. Have you consulted stakeholders not already mentioned above? ☒ **Yes** ☐ **No**
If yes, please give details:

The International Conservation Workshop for the Chinese Giant Salamander (ICWCGS) was attended by 50 Chinese and 15 international stakeholders from a total of 41 relevant organisations, institutions and government agencies, who participated in discussions that led to the development of the Conservation Action Plan recommendations forming the framework of this project. Project scoping expeditions and subsequent in-country visits have also involved consultation with other stakeholders, including CGS farming practitioners, local community members, local and regional government representatives (especially linked to the Fisheries Management Bureau), academics and students. This project has had a 4 year development phase, which has been carefully planned to acquire the broadest range of information and in-country support possible for this project and to identify the best ways in which the project can be implemented.

9b. Do you intend to consult other stakeholders? ☒ **Yes** ☐ **No**
If yes, please give details:

The project will continue to consult relevant stakeholders as appropriate in order to ensure optimum transparency and dissemination of project findings. Project relationships will continue to be cultivated and developed among the CGS farming community, protected area managers, relevant government bodies, and wider stakeholder circles through CEPA activities.

9c. Have you had any (other) contact with the government not already stated? ☒ **Yes** ☐ **No**
If yes, please give details:

Mr. Fan Xiangguo from the Office of Aquatic Wild Animal and Plant Protection at the Ministry of Agriculture of the People's Republic of China attended the ICWCGS to communicate national government endorsement of the workshop and its aims. Professor Wu (SNU) is developing contacts with other key government representatives, including Ms. Jieqing Zhang, Director of the Division of International Organizations and Conventions in the Department of International Cooperation at the Ministry of Environmental Protection (China's CBD liaison) and the Endangered Species Import and Export Management Office of the People's Republic of China at the State Forestry Administration (China's CITES liaison). As a high-ranking Academician of the Chinese Academy of Sciences, Professor Ya-ping Zhang at KIZ is extremely well connected politically and Professor Gang Wei is working with the Guizhou provincial government on the Guizhou Biodiversity Conservation Strategy and Action Plan.

9d. Will your project support any work in the UK Overseas Territories? ☐ **Yes** ☒ **No**
If yes, please give brief details stating which Territory/ies will be involved.

PROJECT DETAILS

10. Please provide a Concept note (Max 1,000 words) (repeat from Stage 1, with changes highlighted)

Background/problem: The world's largest amphibian, the Critically Endangered Chinese giant salamander (CGS; *Andrias davidianus* - Cryptobranchidae), is being extirpated from the wild whilst CGS farming is a fast-developing industry. Endemic to China, occupying a range that encompasses mountain tributaries of the Pearl, Yellow and Yangtze Rivers across 17 provinces, wild CGS have experienced a severe range-wide decline since the 1960s. The recent and rapidly-growing farming industry precipitated unprecedented and unregulated harvesting of wild CGS since the late 1980s to meet demand from a developing domestic market for CGS meat and other products. Recent catastrophic disease outbreaks on farms, apparently mainly due to ranavirus infection, have compounded this problem because farms restock with wild-caught animals. It is also possible that pathogens spread from farmed to wild salamanders (and other amphibians) via untreated farm effluent and government-endorsed conservation initiatives releasing farmed CGS of unknown origin without disease/genetic screening. CGS are also threatened by habitat destruction, fragmentation and degradation, environmental contaminants and, as it is found at high altitudes (up to 1,500 metres), this species is potentially vulnerable to climate change.

Conservation priority: Highly evolutionarily distinct, the CGS lineage has evolved independently for 170 million years and includes just two other surviving species (*Andrias japonicus* and *Cryptobranchus alleganiensis*). The CGS is the second-highest-ranked EDGE amphibian (www.edgeofexistence.org) and its farming has become a key aspect of the rural economy in certain range provinces, but with little regard to sustainable management of wild or captive populations. Conservation of freshwater systems is a major concern within China. CGS conservation efforts will benefit regional biodiversity; education and awareness-raising will present the CGS as an icon for watershed protection.

Obligations under CBD/CITES: The CGS is an Appendix I CITES species and Class II State Major Protected Wildlife Species in China. This project will utilise British expertise and international networks to support collaborative implementation of the CBD (Articles 5-19) by Chinese government agencies and institutions.

Project strategy/Outcomes: A Darwin Scoping award (EIDPR103) part-funded an International Conservation Workshop for the CGS (ICWCGS; SNU, May-June 2010) which united over 60 Chinese and international stakeholders to identify and discuss key Conservation Action Plan recommendations. These inform the current proposal, which targets all 5 Darwin priority areas by: building institutional capacity; training project partners in key skills integral to CGS conservation; conducting collaborative research; working to implement the CBD in the context of both threatened species and inland water ecosystems; and carrying out a widespread CEPA (Communication Education and Public Awareness) strategy, including the promotion/delivery of cascade training and education of a wider constituency.

Primary outcomes of this **Zoological Society of London** (**ZSL**)-led project include:

1. Evidence-base strengthened and disseminated: Further information about range-wide CGS is essential, including: current distribution and relative abundance; genetics of

fragmented populations; presence and level of threats. Local informant data will be collected via questionnaire surveys to gauge historical and current patterns of distribution, threats and awareness. Standardised field survey protocols will be developed and data obtained will inform a Predictive Habitat Model to develop strategic conservation planning. A targeted approach focusing on currently-recognised genetically-distinct populations will be employed given logistical/political considerations. An in-country conservationist (hereafter – "EDGE Fellow") will be trained in CGS survey techniques, co-supervised by **GU** and **SCIEA**, utilising expertise from **TU**, **KIZ** and **KFBG**.

2. Conservation genetics / phylogeography: Preliminary work has identified significant CGS genetic structuring amongst discrete populations, suggesting the existence of multiple CGS subspecies and/or cryptic species. Further research and capacity building at **KIZ** is required to develop a CGS Genetics Database and Biobank to inform future conservation actions and the growing farming industry, safeguarding genetic diversity and leading to protocol development for genetic screening of released animals. In-country expertise will be strengthened through supporting/training an EDGE Fellow based at **KIZ**.

3. Disease diagnostic and research capacity: Disease represents a poorly-understood threat to CGS, in terms of interactions between wild and farmed populations. Diagnostic capacity (infrastructure/expertise) will be developed in Shaanxi Province, a range area of wild CGS and the epicentre of CGS farming (~2 million individuals) and where CGS rearing is widespread as a vital income source for the rural poor. Providing a link between the sustainability of farmed and wild populations through disease mitigation, this work will build relations between the farming and conservation communities. In-country expertise will be utilised and strengthened through the training of an EDGE Fellow at the **SNU** amphibian disease diagnostics laboratory currently being established by **ZSL**.

4. *Ex situ* protocols for conservation: To improve future conservation release programmes, conservation-breeding capacity must be developed to produce disease-free and genetically-appropriate CGS. A flagship conservation breeding and training facility will be developed at the **SWARRC**.

5. CEPA strategy: Working with **SWAARC**, **TU**, **GU, SCIEA** and government partners, a CEPA strategy will be developed to raise the profile of the CGS and the importance of freshwater ecosystems to facilitate conservation at the local, national and international level. CEPA campaigns will be developed in two key CGS range locations.

6. Global network: Working with local partners and the **CIG**, **JGSS** and **CHS**, we will improve the support network of Chinese and international experts/stakeholders to improve effectiveness of designated CGS protected areas and conservation action planning. Engaging with the highest levels of government and advocacy to garner support for CGS and freshwater ecosystem conservation as a crucial part of maintaining a sustainable farming industry, we will interact with key governing bodies, including the **MoEP** (responsible for CBD), **MoA** (responsible for fisheries) and **FMB** (responsible for CGS), to develop policy imperatives.

Broader relevance: 30% of China's amphibians are threatened with extinction and 23% are Data Deficient on the IUCN Red List. In building capacity among the public, government and conservationists, this project will have a lasting impact on China's ability to respond to the amphibian extinction crisis and implement CBD/CITES objectives nationally. Crucially, this project will highlight amphibians as symbols of healthy freshwater ecosystems in conjunction with the United Nations Decade of Education for Sustainable Development, and build capacity to address emerging problems of climate change and disease spread.

11a. Is this a new initiative or a development of existing work (funded through any source)? Please give details:

This project is derived from the key Conservation Action Plan recommendations for CGS identified and discussed during the ICWCGS in May-June 2010. The development of the ICWCGS was part-funded by a Darwin Scoping grant (EIDPR103) in addition to funding from Synchronicity Earth, the

Ocean Park Conservation Foundation Hong Kong (OPCFHK) and the Mohamed bin Zayed Species Conservation Fund. Subsequent fundraising efforts have provided match-funding for the Darwin Initiative Main Project proposal from OPCFHK, USFWS, EAZA, IUCN SOS and the Wildfowl & Wetlands Trust, in addition to project partners.

11b. Are you aware of any other individuals/organisations/ projects carrying out or applying for funding for similar work? ☐ **Yes** ☒ **No**

If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:

11c. Are you applying for funding relating to the proposed project from other sources? ☒ **Yes** ☐ **No**

If yes, please give brief details including when you expect to hear the result. Please ensure you include the figures requested in the spreadsheet as Unconfirmed funding.

In addition to the funding sources mentioned in box 11a, funding was unsuccessfully sought from the Fauna & Flora International Flagship Species Fund and the Amphibian Ark Seed Grants. Professor Wu (SNU) is working with the Fisheries Management Bureau of Shaanxi Province to raise government match-funding for the long-term project and Professor Gang Wei (GU) is seeking funds from Guizhou provincial government for the Guizhou Biodiversity Conservation Strategy and Action Plan, which incorporates CGS conservation in the context of the wider freshwater ecosystem. Additional funding is still being sought from project partners, contingent upon the outcome of this Darwin Initiative Award application. Furthermore, additional funding will continue to be sought throughout the lifespan of this project in line with a post-project sustainability strategy. Relatively small amounts of match-funding aside, projects that take capacity building for amphibian conservation as their central focus are rare and seldom attract the long-term and large-scale funding they so urgently require, which makes the Darwin Initiative a crucial potential source of support for this project.

12. Please indicate which of the following biodiversity conventions your project will contribute to: -

At least one must be selected.
- Only indicate the conventions that your project is directly contributing to.
- No additional significance will be ascribed for projects that report contributions to more than one convention

Convention on Biological Diversity (CBD)	☒ **Yes** ☐ **No**
CITES	☒ **Yes** ☐ **No**
Convention on Migratory Species (CMS)*	☐ **Yes** ☒ **No**

*If CMS please indicate whether it is the main Convention or one or more of the daughter agreements/MoUs (ACAP, AEWA etc)

Is any liaison proposed with the CBD/CMS/CITES focal point in the host country? ☒ **Yes** ☐ **No**
If yes, please give details:

Professor Wu (SNU) is currently developing a cooperation with China's CBD national contact Ms. Jieqing Zhang (Director, Division of International Organizations and Conventions, Department of International Cooperation, Ministry of Environmental Protection) and also with China's CITES national contact organisation (The Endangered Species Import and Export Management Office of the People's Republic of China, State Forestry Administration). Links to relevant government agencies are essential to this project's long-term impact and viability as all project outcomes must be endorsed by the Chinese government. Hence, project development has focused intently on developing these, and other (e.g. Fisheries Management Bureau) government contacts in a culturally appropriate manner within the context of a project plan that meets the needs of host country stakeholders.

What specific issues covered by the Convention(s) will this project address and how were they identified? (150 words)

Specific CBD issues: Article 5 (Cooperation); Article 6 (General measures for conservation and sustainable use); Article 7 (Identification and monitoring); Article 8 (*In-situ* conservation); Article 9 (*Ex-situ* conservation); Article 10 (Sustainable use of components of biological diversity); Article 11

(Incentive measures); Article 12 (Research and training); Article 13 (Public education and awareness); Article 14 (Impact assessment and minimising adverse impacts); Article 15 (Access to genetic resources); Article 16 (Access to the transfer of technology); Article 17 (Exchange of information); Article 18 (Technical and scientific cooperation); Article 19 (Handling of biotechnology and distribution of its benefits); taking an integrated ecosystem approach wherever appropriate.

CITES: The CGS is an Appendix I CITES species, prohibiting international trade.

How were they identified? Consultation of 2010 CBD Report and CITES website, and discussion at the International Conservation Workshop for the Chinese Giant Salamander, which highlighted all specific issues as key components of a long-term project.

What will change as a result of this project? (150 words)

This project is the first consolidated conservation programme for the CGS and its ecosystem, fostering broad-scale change to freshwater biodiversity conservation approaches across China. Key changes include:

- Creation of first robust dataset on CGS population distribution, relative abundance and threats (**Outcome 1**);
- Significant strengthening of in-country capacity in field survey protocols, conservation genetics and disease diagnostic capability (**Outcomes 1-3**);
- Greatly enhanced range-wide CGS conservation genetics programme (**Outcome 2**);
- Well-developed links between sustainability of CGS farming operations and the need to protect wild populations (**Outcome 3**);
- Establishment of flagship CGS conservation breeding centre (**Outcome 4**);
- Awareness of CGS and importance of freshwater ecosystems increased at local/national levels in China, and internationally (**Outcome 5**);
- Improved support network of Chinese and international experts/stakeholders engaging with the highest levels of Chinese government and advocacy, both for CGS conservation and general freshwater ecosystem protection and management (**Outcome 6**).

Why is the project important for the conservation of biodiversity? (150 words)

Wild CGS are becoming extirpated against a backdrop of unprecedented global amphibian declines and extinctions, with almost half of all species in decline, around one-third threatened with extinction (highest known proportion of any vertebrate class) and a quarter Data Deficient (IUCN Red List). There has never been a greater need to engage in actions that conserve amphibians, building relevant capacity in countries where threatened amphibians occur. Thirty percent of China's amphibians are threatened and 23% are Data Deficient and, with global concern over freshwater ecosystems and availability reaching crisis point, China must urgently address the protection of its freshwater resources. This project highlights amphibians as symbols of healthy freshwater ecosystems and, given that China is a contracting party of the Ramsar Convention on Wetlands (37 Ramsar Sites), the objectives of this Convention will be strengthened as *in situ* conservation and CEPA project objectives are developed through an integrated ecosystem approach.

13. How will the results of the project be disseminated; how will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used? (max 200 words)

Dissemination: We will utilise the ZSL Communications Department's considerable publicity resources, in cooperation with local partner's communication strategies, to disseminate/publicise project results. The EDGE website will host EDGE Fellow webpages and re-post regular project blogs on the ZSL website. The ZSL website receives 2.3 million unique users per year (in addition to >6 million YouTube views and popular Facebook/Twitter pages), with EDGE attracting an additional >250,000 users annually. Furthermore, the project will develop its own website (in Chinese and English) to disseminate project results and publicise the Darwin Initiative. UK partners will work closely with in-country partners, promoting national level learning in China through the CEPA strategy development and assisting in the promotion of CEPA campaigns, ensuring local/national/international media involvement. Publications and conferences will also be regularly utilised as a means of dissemination.

Advertising Darwin Initiative: The Darwin logo and name will be used in all publicity relating to the project, which will be conducted by experienced marketing personnel to maximise positive exposure. Project-affiliated public engagement/education facilities in China, such as SWARRC (>80,000 visitors per year), will advertise the project and Darwin name/logo. The Darwin logo will feature prominently in any project materials, including reports, protocols and CEPA materials.

14. What will be the long term benefits (particularly for biodiversity and local communities) of the project in the host country or region and have you identified any potential problems to achieving these benefits? (max 200 words)

Increased knowledge of the distribution, abundance, genetics and threat status of wild CGS populations will allow *in situ* conservation management strategies to be effectively implemented. A complementary CEPA strategy will raise the profile of CGS and the importance of freshwater ecosystems, facilitating conservation management at the local, national and international level. CGS farming constitutes a major industry in certain CGS range-areas and has been identified by the Chinese government as an important means of improving rural population livelihoods and reducing urban migration. Many rural families rear CGS in private units and subsequently sell their stock to larger breeding/finishing farms. The current amphibian disease threats to captive and wild CGS present huge issues to local community livelihoods, and to biodiversity conservation. Strengthening biosecurity protocols and enhancing links between the farming community and the protection of wild CGS populations/their freshwater ecosystems as part of a sustainable farming industry will ultimately have long-term benefits for freshwater biodiversity, promoting conservation strategies for other species and safeguarding rural livelihoods. Engagement at the highest levels of local, provincial and national Chinese government and advocacy to garner both political and public support for CGS and freshwater ecosystem conservation will facilitate the achievement of these long-term benefits.

15. State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave? (Max 200 words)

A Chinese Project Coordinator will be recruited to manage project activities in China, facilitating in-country collaborations between partners whilst developing an institutional base at KIZ. As part of the post-project sustainability strategy it is anticipated that this post will endure beyond the Darwin Initiative-funded project period through integration into the KIZ staff when the project is fully established. Basing EDGE Fellows at key institutions in China will allow internal knowledge/skills transfer via cascade training, sustaining institutional capacity. The disease component will enable farms to recognise economic advantages of effective biosecurity measures and disease mitigation, informing the farming business strategy in terms of “best-practice” and removing demand for wild CGS. The flagship conservation breeding centre at SWARRC will foster development of a government-endorsed specific conservation breeding and release programme for CGS. SWARRC/FMB will take over the running of the facility post project, providing a permanent model for production of further conservation breeding centres within other watersheds/distinct genetic population range units and removing the requirement for wild-release of farmed CGS. Reference protocols for all key outputs (including CEPA strategies for CGS and freshwater ecosystem conservation, monitoring methodologies, genetics and amphibian disease surveillance/diagnostics) will be produced and disseminated through project networking/website.

16. If your project includes capacity building in local communities in the host country, please indicate how you will assess the training needs in relation to the overall purpose of the project. Who are the target groups? How will the training be delivered? What skills and knowledge you expect the beneficiaries to obtain and how these may be used beyond the life of the project and any wider application How will you measure training effectiveness. (max 300 words)
You should address each of these points.

Capacity building target groups: ZSL’s EDGE Fellows programme targets early-career conservation scientists/practitioners who will benefit from specially-tailored training programmes to enhance their long-term contribution to vital conservation issues within their country. Capacity building will also target project staff, key partners and students in collaborating institutions, whilst

the CEPA strategy will address education and awareness needs of the broader stakeholder community.

Assessment of training needs: The Project Coordinator will undertake a preliminary skills audit, receiving subsequent training in project management, fundraising and other areas as necessary, and will conduct skills audit sessions with each EDGE Fellow, their in-country supervisors and key stakeholders in conjunction with relevant UK and international expert project partners. Training needs will be documented and used to develop training schedules.

Training delivery/transferral: EDGE Fellow training schedules will be tailored to their sub-projects, i.e. (i) *In situ* monitoring techniques; (ii) Disease diagnostics/surveillance, or (iii) Conservation genetics. Progress will be evaluated regularly by the Project Coordinator, in-country supervisors and expert project partners. EDGE Fellows will be trained to conduct cascade training of skills/knowledge throughout their institutions. Two 4-week group training trips with expert partners, collecting population genetics, disease and distribution information from four known genetically-distinct populations (Anhui, Qing'hai, Shaanxi, Guangxi provinces), will exchange knowledge/skills between the EDGE Fellows and their trainers/supervisors and develop a cohesive project team. A multi-stakeholder CEPA training and planning workshop will train EDGE Fellows and their in-country supervisors in CEPA campaign management.

Post-project benefits and wider application: Conservation capacity in China among project partners/stakeholders will be improved, particularly in amphibian and wider freshwater ecosystem conservation. Capacity for project planning will also be strengthened, which will benefit the development of future Chinese collaborative conservation partnerships.

Measurement of training effectiveness: Post-project skills audits and UK-expert assessment will be conducted to assess effectiveness of training measures.

LOGICAL FRAMEWORK

17. Please enter the details of your project onto the matrix using the note at Annex 3 of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes. (Use no smaller than Arial 10 pt)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: Improving scientific understanding & in-country capacity to strengthen the conservation framework for CGS.	Progress on developing & implementing a national conservation strategy in China, supported by the MoEP, MoA, FMB & the farming industry, to safeguard wild CGS in key locations across the range in the drainage basins of the Yellow, Yangtze & Pearl Rivers.	MoEP reports to CBD and reports to CITES • China National Biodiversity Strategy monitoring reports.	
Purpose Building the evidence-base & capacity to underpin, promote & conduct a strategic conservation plan for the CGS.	First robust dataset of population distribution, relative abundance and threat distribution across key range areas & genetic connectivity • Improved in-country resources & capacity for addressing both *in situ* & *ex situ* conservation concerns, including: monitoring protocols; population genetics database & biobanked material; disease diagnostic protocols; conservation breeding protocols; CEPA strategy and 2 campaigns; & the establishment of an effective national & international network to support & promote the sub-goal.	Conservation Action Plan (National/Provincial) • Evaluated training schemes in monitoring, disease diagnostics, population genetics analysis, database construction, & conservation breeding • Scientific literature in Chinese/English • MoEP reports to CBD • China National Biodiversity Strategy monitoring reports • Project progress reports.	Effective collaboration & communication between all project partners • Chinese government **authorities** continue to support project.
Outputs 1. Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened & disseminated.	Scientifically robust baseline data for CGS occurrence/abundance in range-wide study regions collated, analysed & reported • Predictive Habitat Model developed, that factors-in Climate Change, to delimit a suitable remaining range area for CGS to inform future conservation breeding release efforts & establish potential locations of remnant populations • Questionnaire-based survey protocols developed & utilised to collect local informant data on current / historical range • Standardised field survey programme developed & utilised • 1 CGS survey & monitoring EDGE Fellow trained.	Full review of existing data produced • Revised range map produced • Standardised long-term monitoring protocols formalised & distributed • Interview protocols document • reports and published papers showing results of field work • Centralised information portal developed for dissemination of project progress & findings • Post-project skills audit & expert assessment.	Chinese government (specifically the Province-level FMB representatives) continue to provide permits for field research
2. Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species.	CGS Genetics Group established to coordinate collection, analysis, storage, databasing & dissemination of genetic information to facilitate conservation management and sustainable production of wild CGS • Field collection of CGS genetic samples across known range • Microsatellites developed & databased to enable the analysis of genetic samples • Genetic analysis of samples, investigating phylogeography, & identifying distinct evolutionary units & possible evidence for cryptic species • Biobanking of genetic	CGS genetic group established & coordination/remit agreed • CGS genetics database expands • Protocols for developing microsatellites produced • Scientific literature in Chinese/English • Moratorium on current government-endorsed release programme & protocol for genetic screening of any animals released to supplement wild population • Biobank established • Post-project skills audit & expert assessment.	Sufficient samples can be collected from wild animals, allowing for possible presence of released salamanders from a different sub-population • MoEP, MoA and FMB accept project

	information • Integration of CGS genetic data into longer-term range-wide conservation management • 1 CGS conservation genetics EDGE Fellow trained.		recommendations.
3. Disease threats to farmed and wild CGS identified and mitigation strategies developed.	Develop CGS disease diagnostic & research capacity within China • Identify major disease threats to wild and farmed CGS & investigate routes of transfer between the two • Raise awareness of disease / biosecurity / quarantine issues among farms & captive breeding centres, including treatment of waste water from farms • Develop protocols to determine health and infection status of animals destined for release • Develop disease mitigation measures & treatments for captive/farmed CGS • CGS farming becomes self-sustainable and no longer relies on regular inputs of wild-caught animals • 1 CGS disease diagnostics & surveillance EDGE Fellow trained.	First CGS disease diagnostic laboratory & training centre established, training post-doctoral students • CGS disease diagnostic protocols developed and important disease threats identified • Protocols for disease screening of CGS developed and implemented prior to release • CGS disease information and mitigation document developed & circulated to government & CGS stakeholders (including CGS farmers) • Anonymous surveys of farms indicate that wild-caught CGS are no longer required by the farming industry • Post-project skills audit & expert assessment.	Access to sample farmed and wild CGS granted • Farmers willing to adopt disease mitigation protocols • MoEP, MoA and FMB accept project recommendations.
4. Build upon existing CGS farming protocols & infrastructure to develop *ex situ* protocols for conservation.	Develop protocols for CGS conservation breeding through cooperation with farms & a targeted CGS Conservation Breeding Workshop • Develop plan for first captive population of CGS for conservation breeding & create appropriate facility at the Shaanxi Wild Animal Rescue and Research Centre • Government-endorsed conservation breeding and release programme for CGS, removing any requirement for the release of commercially farmed CGS as a conservation measure.	Conservation breeding workshop report • Conservation breeding protocols developed • Conservation breeding training manual developed • First CGS conservation breeding facility and population established • Strategy document developed for establishment of further conservation breeding populations based on CGS Genetics Group recommendations • Disease-free & genetically managed CGS available for release into the wild.	Government permission granted to establish conservation breeding population(s) of CGS.
5. Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level.	CEPA training and planning workshop including a variety of stakeholders to set future directions to raise the profile of CGS & facilitate its conservation • Public campaigns conducted in 2 key project target areas (Shaanxi and Guizhou) highlighting importance & conservation requirements of CGS • 20,000 appropriate CEPA materials produced & distributed at local community meetings & schools in target areas • Train EDGE Fellows and supervisors in CEPA and project coordination • 9 local, 6 national & 2 international newspaper articles; 9 local, 6 national & 2 international radio & TV interviews; Project blog and social networking sites established • 6 internet articles on partner websites.	Project annual reports • Pictures, footage & report from CEPA workshop • Project coordinator CEPA training report • Footage & reports of 2 CEPA campaigns (including school presentations, fairs, art displays, theatre, public CGS educational encounters) • Radio & TV transcripts/recordings, newspaper & internet articles, scientific papers • Project partner websites & hit-count • Short film cut from project footage at end of Year 3.	Target areas are receptive to CEPA campaign activities • Campaigns are appropriately pitched to influence attitudes / behaviour of target audience • Media willing to publicise information about CGS threats & conservation.
6. Development of a global network that seeks to conserve giant salamanders nationally & internationally.	Link up international network of protected areas & CGS/cyptobranchid experts • Project staff to take part in CIG, JGSS & CHS meetings • Engage with the highest levels of government & advocacy to garner support for the conservation of the CGS as an iconic species and a key component of the maintenance of healthy, functioning watersheds • Meetings with MoEP, MoA, FMBs & other relevant ministries to discuss CGS policy imperatives.	Project website for dissemination of CGS information, project progress & findings, releasing a biannual online newsletter • Reports & presentations to CIG, JGSS & CHS • Reports of meetings with government bodies.	Ongoing support from international colleagues and Chinese government.

Activities (details in workplan)

0. Project management, monitoring and reporting activities

0.1 Recruitment of Project Coordinator; **0.2** Project Steering Group established / delivering ongoing guidance; **0.3** Recruitment of EDGE Fellows; **0.4** Establishment of MOU(s) / agreements between project partners as appropriate; **0.5** Hold meetings with key government partners in Beijing (MoEP/FMB/MoA); **0.6** Project half year reports submitted to Darwin Initiative; **0.7** Project annual reports submitted to Darwin Initiative; **0.8** Project final report submitted to Darwin Initiative; **0.9** Annual group project review meetings in China; **0.10** Final project workshop on CGS and freshwater ecosystem conservation in China for all relevant stakeholders (both Chinese and international) in China; **0.11** Additional project fundraising and continued development of post-project sustainability strategy.

1. Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened and disseminated

1.1 Conduct training visits to Anhui/Qing'hai/Shaanxi/Guangxi Provinces with three EDGE Fellows; **1.2** Develop standardised questionnaire-based survey protocol; **1.3** Develop standardised field survey protocol; **1.4** Develop predictive habitat model; **1.5** Develop long-term monitoring protocol and strategy; **1.6** Conduct long-term monitoring at selected field site; **1.7** Train and supervise EDGE Fellow focusing on long-term monitoring of wild CGS in Guizhou/Guangxi at GU/SCIEA.

2. Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species

2.1 Collect field genetics samples from wild and captive CGS; **2.2** Develop microsatellites and associated protocols for analysis of CGS genetics; **2.3** Develop protocol for genetic screening of any captive CGS released to supplement wild populations; **2.4** Manage and improve CGS genetics database at KIZ; **2.5** Analyse genetic samples collected throughout project at KIZ; **2.6** Biobanking of genetic samples at KIZ; **2.7** Train and supervise EDGE Fellow focusing on CGS conservation genetics at KIZ.

3. Disease threats to farmed and wild CGS identified and mitigation strategies developed

3.1 Collect field samples from wild and captive CGS; **3.2** Complete the establishment of a disease diagnostic laboratory at SNU; **3.3** Develop disease diagnostics and screening protocols for wild and farmed CGS and analyse samples; **3.4** Develop protocol for disease screening of any captive CGS released to supplement wild populations; **3.5** Train and supervise EDGE Fellow focusing on CGS disease diagnostics and mitigation strategies at SNU.

4. Build upon existing CGS farming protocols & infrastructure to develop ex situ protocols for conservation

4.1 Construct, populate and develop pilot CGS *ex situ* conservation breeding facility at SWARRC; **4.2** Develop CGS conservation breeding protocols; **4.3** Initiate CGS conservation breeding at pilot facility; **4.4** Develop government-endorsed conservation breeding and release programme.

5. Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level

5.1 Conduct CGS and freshwater ecosystem CEPA training and planning workshop; **5.2** Develop and circulate long-term CGS and freshwater ecosystem CEPA strategy; **5.3** Train 3 EDGE Fellows in CEPA campaign organisation and implementation; **5.4** Produce appropriate project CEPA materials; **5.5** Conduct public CEPA campaigns; **5.6** Plan and conduct overall awareness strategy (media/social marketing).

6. Development of a global network that seeks to conserve giant salamanders nationally & internationally

6.1 Meetings with relevant government ministries and stakeholders; **6.2** Build and maintain project website; **6.3** Different project partners attend relevant national and international conferences to disseminate project purpose, findings and achievements (including CHS, EcoHealth, Society for Conservation Biology; JGSS; CIG); **6.4** Final Darwin Initiative project strategy workshop on promotion of CGS and freshwater ecosystem conservation in China.

18. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project.

	Activity	No of Months	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
0. Project management, monitoring and reporting activities														
0.1	Recruitment of Project Coordinator	1												
0.2	Project Steering Group established / delivering ongoing guidance	Ongoing												
0.3	Recruitment of EDGE Fellows	1												
0.4	Establishment of MOU(s) /agreements between project partners as appropriate	1												
0.5	Hold meetings with key government partners in Beijing (MoEP/FMB/MoA)	1												
0.6	Project half year reports submitted to DI	3												
0.7	Project annual reports submitted to DI	3												
0.8	Project final report submitted to DI	Post project completion within 3 months												
0.9	Annual group project review meetings in China	3												
0.10	Final project workshop on CGS and freshwater ecosystem conservation in China for all relevant stakeholders (both Chinese and international) in China	1												
0.11	Additional project fundraising and continued development of post-project sustainability strategy	Ongoing												
1. Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened and disseminated														
1.1	Conduct training visits to Anhui/Qing'hai/Shaanxi/Guangxi Provinces with three EDGE Fellows	2 (2x4-week trips)												
1.2	Develop standardised questionnaire-based survey protocol	6												
1.3	Develop standardised field survey protocol	6												
1.4	Develop predictive habitat model	15												
1.5	Develop long-term monitoring protocol and strategy	6												
1.6	Conduct long-term monitoring at selected field site	15												
1.7	Train and supervise EDGE Fellow focusing on long-term monitoring of wild CGS in Guizhou/Guangxi at GU/SCIEA	36												
2. Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species														
2.1	Collect field genetics samples from wild and captive CGS	15												
2.2	Develop microsatellites and associated protocols for analysis of CGS genetics	12												
2.3	Develop protocol for genetic screening of any captive CGS released to supplement wild populations	12												
2.4	Manage and improve CGS genetics database at KIZ	Ongoing												
2.5	Analyse genetic samples collected throughout project at KIZ	24												
2.6	Biobanking of genetic samples at KIZ	24												

2.7	Train and supervise EDGE Fellow focusing on CGS conservation genetics at KIZ	36													
3. Disease threats to farmed and wild CGS identified and mitigation strategies developed															
3.1	Collect field samples from wild and captive CGS	18													
3.2	Complete the establishment of a disease diagnostic laboratory at SNU	5													
3.3	Develop disease diagnostics and screening protocols for wild and farmed CGS and analyse samples	6													
3.4	Develop protocol for disease screening of any captive CGS released to supplement wild populations	6													
3.5	Train and supervise EDGE Fellow focusing on CGS disease diagnostics and mitigation strategies at SNU	36													
4. Build upon existing CGS farming protocols & infrastructure to develop ex situ protocols for conservation															
4.1	Construct, populate and develop pilot CGS *ex situ* conservation breeding facility at SWARRC	15													
4.2	Develop CGS conservation breeding protocols	18													
4.3	Initiate CGS conservation breeding at pilot facility	9													
4.4	Develop government-endorsed conservation breeding and release programme	12													
5. Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level															
5.1	Conduct CGS and freshwater ecosystem CEPA training and planning workshop	1 week													
5.2	Develop and circulate long-term CGS and freshwater ecosystem CEPA strategy	9													
5.3	Train 3 EDGE Fellows in CEPA campaign organisation and implementation	2 weeks													
5.4	Produce appropriate project CEPA materials	15													
5.5	Conduct public CEPA campaigns	2													
5.6	Plan and conduct overall awareness strategy (media/social marketing)	Ongoing													
6. Development of a global network that seeks to conserve giant salamanders nationally & internationally															
6.1	Meetings with relevant government ministries and stakeholders	Ongoing													
6.2	Build and maintain project website	Ongoing													
6.3	Different project partners attend relevant national and international conferences to disseminate project purpose, findings and achievements	Ongoing													
6.4	Final Darwin Initiative project strategy workshop on promotion of CGS and freshwater ecosystem conservation in China	1 week													

19. Please indicate which of the following Standard Measures you expect to report against by providing indicative figures. These will help gauge project achievements if you receive funding. You will not necessarily plan to cover all these Standard Measures in your project. Separate guidance on Standard Measures can be found at http://darwin.defra.gov.uk/resources/reporting/standard_measures/

Standard Measure	Description	Estimate
1A	Number of people to submit thesis for PhD qualification (in host country)	
1B	Number of people to attain PhD qualification (in host country)	
2	Number of people to attain Masters qualification (MSc, MPhil etc)	
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	
4A	Number of undergraduate students to receive training	5
4B	Number of training weeks to be provided	20
4C	Number of postgraduate students to receive training	5
4D	Number of training weeks to be provided	20
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	3
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	30
6B	Number of training weeks to be provided	46
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	7
8	Number of weeks to be spent by UK project staff on project work in the host country	50
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	2
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	1
11A	Number of papers to be published in peer reviewed journals	3
11B	Number of papers to be submitted to peer reviewed journals	2
12A	Number of computer based databases to be **established** and handed over to host country	2
12B	Number of computer based databases to be **enhanced** and handed over to host country	1
13A	Number of species reference collections to be **established** and handed over to host country(ies)	
13B	Number of species reference collections to be **enhanced** and handed over to host country(ies)	
14A	Number of conferences/seminars/ workshops to be **organised** to present/disseminate findings	15
14B	Number of conferences/seminars/ workshops **attended** at which findings from Darwin project work will be presented/ disseminated.	8
15A	Number of national press releases in host country(ies)	6
15B	Number of local press releases in host country(ies)	9
15C	Number of national press releases in UK	2
15D	Number of local press releases in UK	
16A	Number of newsletters to be produced	6
16B	Estimated circulation of each newsletter in the host country(ies)	>25,000
16C	Estimated circulation of each newsletter in the UK	90,000
17A	Number of dissemination networks to be **established**	4
17B	Number of dissemination networks to be **enhanced/ extended**	1
18A	Number of national TV programmes/features in host country(ies)	3
18B	Number of national TV programmes/features in UK	1
18C	Number of local TV programmes/features in host country(ies)	4
18D	Number of local TV programmes/features in UK	
19A	Number of national radio interviews/features in host county(ies)	3
19B	Number of national radio interviews/features in UK	1
19C	Number of local radio interviews/features in host country(ies)	5
19D	Number of local radio interviews/features in UK	
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	42,494
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	3
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	3
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	£325,434

PROJECT BASED MONITORING AND EVALUATION

20. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

The Project Leader will take overall responsibility for tracking project execution against the Measurable Indicators and thus monitoring of progress towards the timely delivery of the six project Outputs and the project Purpose. However, the process of monitoring and evaluation will be a team effort under the day-to-day management of the Project Coordinator. A Project Steering Group (PSG) will be established once the Project Coordinator is in-post, comprising project staff from ZSL and key partner organisation representatives. Regular communications/meetings will take place electronically (email and Skype), led by the Project Leader as Chair of the PSG, and annual meetings in China, training visits, workshops and appropriate conferences will enable physical PSG meetings to occur around twice per year. Furthermore, although based in China, ZSL training and dissemination visits will be scheduled for the Project Coordinator on an annual basis, with UK and international expert visits to China scheduled on a four-monthly basis throughout the course of the project. The PSG will coordinate all training visits by UK and international experts and evaluate the implementation and effectiveness of the CEPA strategy. EDGE Fellow and in-country supervisor skills audits and ongoing expert assessment will provide performance appraisals, allowing skills/capacity development to be monitored to identify any training issues/needs. EDGE Fellow and institutional workplans will be developed each year (based on the logframe and implementation timetable), and the PSG members will be responsible for monitoring and reporting on their progress against these workplans. Progress will be reported and discussed within the PSG on a monthly basis, with an informal report drafted quarterly to consolidate tracking of performance. Formal project evaluations will be held biannually, preceding the preparation of half-year, annual and final reports. Project stakeholders external to the PSG will review the biannual evaluation of outputs to ensure objectivity. Regular updates to the project website will enable all stakeholders to follow project progress and access reports, protocols, training documents and scientific publications.

FUNDING AND BUDGET

Please complete the separate Excel spreadsheet which will provide the Budget information for this application. Some of the questions below refer to the information in this spreadsheet.

NB: Please state all costs by financial year (April to March). Use current prices – and include anticipated inflation, as appropriate, up to 3% per annum. The Darwin Initiative cannot agree any increase in grants once awarded.

21. How is your organisation currently funded? (max 100 words)

ZSL, comprising two zoos, a scientific Institute (the Institute of Zoology) and the Conservation Programmes Department, receives around 75% of its funding from revenue generated through zoo gate receipts. A further 10% is received by the Institute from the Higher Education Funding Council for England. Grants, donations and contracts for conservation and research make up the remainder, generated from a range of sources including research councils, individual and multilateral governments (e.g. UK and US government departments, European Commission), private and corporate donors (e.g. Timbmet), foundations (e.g. Rufford Maurice Laing Foundation) and non-governmental bodies (e.g. IUCN).

For full reports see: http://www.zsl.org/info/publications/zsl-annual-review,77,AR.html

22. Provide details of all <u>confirmed</u> funding sources identified in the Budget that will be put towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity. Please include any additional <u>unconfirmed</u> funding the project will attract to carry out addition work during or beyond the project lifetime. Indicate those funding sources which are confirmed.

Confirmed: Zoological Society of London (ZSL; Royal Society; Kunming Institute of Zoology, Chinese Academy of Science (KIZ; Shaanxi Normal University (SNU; Kadoorie Farm & Botanic Garden (KFBG); Fisheries Management Bureau of People's Republic of China (FMB; Tottori University (TU); IUCN Save Our Species; Wildfowl & Wetlands Trust (WWT); Guiyang University (GU); South China Institute of Endangered Animals (SCIEA); EAZA Amphibian Conservation Fund,; Ocean Park Conservation Foundation Hong Kong; US Fish and Wildlife Service.. **Total = £325,434**
Unconfirmed: WWT; and (pending results of Darwin Initiative grant application) KIZ; SNU; Shaanxi Wild Animal Rescue and Research Centre (SWARRC); Ministry of Environmental Protection (MoEP); Ministry of Agriculture (MoA). **Total = £69,750**

23. Please give details of any further resources (confirmed or unconfirmed) for this project that are not already detailed in the Budget or Question 22. This will include donations in kind or un-costed support eg accommodation. (max 50 words per box)

Possible additional financial resources (not yet applied for): Fundraising will take place throughout the course of the project as appropriate/required, especially with regard to securing post-project funding opportunities.
Funding in kind: Funding in kind has been supplied from a number of sources, including: laboratory space and equipment at SNU and KIZ; field survey equipment at GU/SCIEA and TU; office space for EDGE Fellows at KIZ, SNU and GU/SCIEA, and for the Project Coordinator at KIZ; Meeting rooms/venues at SNU and KIZ; and land for the *ex situ* conservation breeding facility at SWARRC.

FCO NOTIFICATIONS

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country. ☐

Please indicate whether you have contacted the local UK embassy or High Commission directly to discuss security issues (see Guidance Notes) and attach details of any advice you have received from them.

Yes (no written advice) ☒ **Yes, advice attached** ☐ **No** ☐

CERTIFICATION 2011/12

On behalf of the trustees of The Zoological Society of London

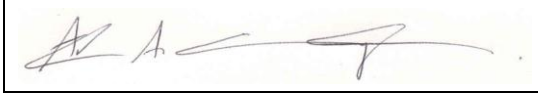
I apply for a grant of £300,374 in respect of all expenditure to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful. (*This form should be signed by an individual authorised by the lead UK institution to submit applications and sign contracts on their behalf.)*

I enclose CVs for project principals and letters of support. Our most recent audited accounts and annual report can be found at *(delete as appropriate)*:

http://www.zsl.org/info/publications/zsl-annual-review,77,AR.html

Name (block capitals)	PROFESSOR ANDREW CUNNINGHAM
Position in the organisation	Deputy Head of Institute of Zoology, Professor & Head of Wildlife Epidemiology

Signed  **Date:** 24th October 2011

Stage 2 Application - Checklist for submission

	Check
Have you provided actual start and end dates for your project?	✓
Have you provided your budget based on UK government financial years ie 1 April – 31 March?	✓
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the application?	✓
Is the concept note within 1,000 words?	✓
Is the logframe no longer than 3 pages and have you highlighted any changes since Stage 1?	✓
Has your application been signed by a suitably authorised individual? (clear electronic or scanned signatures are acceptable in the email, but a wet signature should be provided in the hard copy version)	✓
Have you included a 1 page CV for all the Principals identified at Question 5?	✓
Have you included a letter of support from the main overseas partner(s) organisations identified at Question 5?	✓
Have you checked with the FCO in the project country/ies and have you included any evidence of this?	✓
Have you included a copy of your most recent annual report and accounts? See: http://www.zsl.org/info/publications/zsl-annual-review,77,AR.html	✓
Have you read the Guidance Notes?	✓
Have you checked the Darwin website immediately prior to submission to ensure there are no late updates?	✓

Once you have answered Yes to the questions above, please submit the application, not later than midnight GMT on Monday **24 October 2011** to Darwin-Applications@ltsi.co.uk using the application number (from your Stage 1 feedback letter) and the first few words of the project title **as the subject of your email**. However, if you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). **In addition**, a hard copy of the signature page should be submitted to Darwin Applications, c/o LTS International, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL **postmarked** not later than Tuesday 25 October 2011**.**

DATA PROTECTION ACT 1998: **Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites(details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.**